

REMARKS

Claims 1-24 are pending in this application. Claims 1, 14, 16 and 20 have been amended herein.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite (Office action point 1).

The rejection is overcome by the amendments to the claims.

With regard to claim 1, "m+n 3" has been amended to -- $1 \leq m+n \leq 3$ --. In part, the amendment represents a correction of a typographical error: in originally filed claim 1, this was "m+n \leq 3". The present amendment further limits the value of m+n to be at least 1.

OK Group " -C C- " in claim 1 has been amended to -- $-C \equiv C-$ --. This represents a correction of a typographic error, as may be seen by comparison to originally filed claim 1.

The paragraph "and; applying similarly ..." at the end of claim 1 has been deleted.

In addition, two groups in the definition of L and M, $-O(CH_2)_3-$ and $-(CH_2)_3O-$, are reintroduced to claim 1. These were deleted by typographical error in the preliminary amendment to claim 1.

Claim 14 has been amended to define ring A and m, deleting the reference to general formula (I).

Claim 16 has been amended to define L, deleting the reference to general formula (I). General formula (V-1) has also been reintroduced to claim 16.

Claim 20 has been amended into an independent claim, deleting the references to formulas (V-1) and (V-2). A period has been added to the end of claim 20.

Claims 1-15 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Petrzilka et al (U.S. Patent No. 4,432,885) (Office action point 3).

The rejection of claims 1-13 and 21-22 under 35 U.S.C. 102(b) is overcome by the amendments to the claims. In the amendment to independent claim 1, the definitions of m and n are amended, such that m and n satisfy $1 \leq m+n \leq 3$. This amendment is supported by the Examples in the specification on pages 17-23.

Since $m=n=0$ for compound XXVI of Petrzilka et al., Petrzilka et al.'s compound is not encompassed by claim 1. Petrzilka et al. therefore does not anticipate claim 1 or dependent claims 2-13, 21 and 22.

Applicants respectfully assert that claims 14 and 15, which recite a compound including a ketone group, are not anticipated by Petrzilka et al.'s compounds XXIX and XXVI.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

Attached hereto is a marked-up version of the changes made by the current amendment. The attached page is captioned "Version with markings to show changes made."

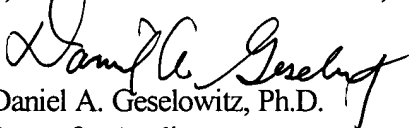
Amendment under 37 CFR 1.111
Shinji OGAWA et al.

U.S. Patent Application Serial No. 09/763,531
Attorney Docket No. 010184

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Version with markings to show changes made

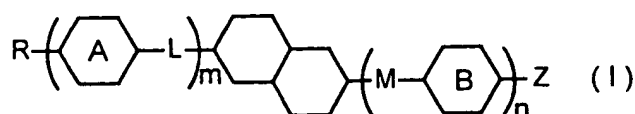
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 1, 14, 16 and 20 as follows:

1. (Twice Amended) A ~~composition~~ compound represented by general formula (I) :



(wherein, R and Z may be substituted with a halogen and represent alkyl groups or alkoxy groups having 1-16 carbon atoms, alkenyl groups having 2-16 carbon atoms, alkenyloxy groups having 3-16 carbon atoms, alkyl groups having 1-12 carbon atoms substituted with an alkoxy group having 1-10 carbon atoms, hydrogen atoms, fluorine atoms, chlorine atoms, trifluoromethoxy groups, difluoromethoxy groups, trifluoromethyl groups, 2,2,2-trifluoroethoxy groups, cyano groups, cyanato groups, hydroxy groups or carboxy groups, m and n may be the same or different and respectively and independently represent an integer of 0-2, $1 \leq m+n \leq 3$, L and M may be the same or different and respectively and independently represent $-\text{CH}_2\text{CH}_2-$, $-\text{CH}(\text{CH}_3)\text{CH}_2-$, $-\text{CH}_2\text{CH}(\text{CH}_3)-$, $-\text{CH}_2\text{O}-$, $-\text{OCH}_2-$, $-\text{CF}_2\text{O}-$, $-\text{OCF}_2-$, $-\text{COO}-$, $-\text{OCO}-$, $-\text{CH}=\text{CH}-$, $-\text{CF}=\text{CF}-$, $-\text{C}\equiv\text{C}-$, $-\text{O}(\text{CH}_2)_3-$, $-(\text{CH}_2)_3\text{O}-$, $-(\text{CH}_2)_4-$ or a single bond, rings A and B when present may be the same or different and respectively and independently represent a trans-1,4-cyclohexylene group in which one CH_2 group or more than one non-adjacent CH_2 groups in the group may be replaced by $-\text{O}-$ or $-\text{S}-$, a 1,4-phenylene group in which one CH_2 group or more than one non-adjacent CH_2 groups in the group may be replaced by $-\text{N}=\text{N}-$, a 1,4-cyclohexenylene group, 1,4-bicyclo(2,2,2)octylene group, piperidine-1,4-diyl group, naphthalene-2,6-diyl group, trans-decahydronaphthalene-trans-2,6-diyl group or 1,2,3,4-tetrahydronaphthalene-2,6-diyl group, and although these may be substituted with a cyano group or halogen, in the case m or n represents 2, at least one of the two L or M present represents a single bond; provided that the following cases are excluded:

- i. case in which m and n represent 0, R represents a non-substituted alkyl group, and Z represents a non-substituted alkyl group or cyano group;
- ii. case in which either m or n represents 1, the other of m or n represents 0, ring A or ring B when present represents a 1,4-cyclohexylene group, L or M when present represents a single bond, R or Z bonded to a

decahydronaphthalene ring represents a non-substituted alkyl group, and R or Z bonded to a 1,4-cyclohexylene group represents a non-substituted alkyl group, alkoxy group or alkenyloxy group;

iii. case in which either m or n represents 1, the other m or n represents 0, ring A or ring B when present represents a 1,4-cyclohexylene group, L when present represents -OCO- or M when present represents -COO-, R or Z bonded to a decahydronaphthalene ring represents a non-substituted alkyl group, and R or Z bonded to a 1,4-cyclohexylene group represents a non-substituted alkyl group or cyano group;

iv. case in which either m or n represents 1, the other m or n represents 0, ring A or ring B when present represents a non-substituted 1,4-phenylene group, L when present represents -OCO- or M when present represents -COO-, L or M when present represents a single bond, R or Z bonded to a decahydronaphthalene ring represents an alkyl group, and R or Z bonded to a 1,4-phenylene group represents a non-substituted alkyl group, alkoxy group, hydroxyl group, hydrogen atom, carboxyl group or cyano group;

v. case in which either m or n represents 1, the other m or n represents 0, ring A or ring B when present represent a non-substituted 1,4-phenylene group, L or M when present represents a single bond, R or Z bonded to a decahydronaphthalene ring represents a non-substituted alkoxy group, and R or Z bonded to a 1,4-phenylene group represents a non-substituted alkyl group;

vi. case in which either m or n represents 1, the other m or n represents 0, ring A or ring B when present represents a trans-decahydronaphthalene-trans-2,6-diyl group, L when present represents -OCO-, M when present represents -COO- or L or M when present represent a single bond, and R and Z represent non-substituted alkoxy groups;

vii. case in which either m or n represents 1, the other m or n represents 0, ring A or ring B when present represents a non-substituted naphthalene-2,6-diyl group, L when present represents -OCO- or M when present represents -COO-, R or Z bonded to a decahydronaphthalene ring represents a non-substituted alkyl group, and R or Z bonded to a naphthalene-2,6-diyl group represents a non-substituted alkyl group, bromine atom or cyano group, or the case in which R or Z bonded to a decahydronaphthalene ring represents a non-substituted alkoxy group, and R or Z bonded to a naphthalene-2,6-diyl group represents a non-substituted alkyl group or cyano group;

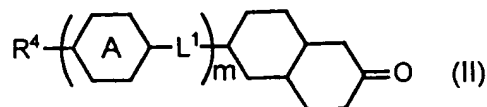
viii. case in which n represents 2, m represents 0, R represents a non-substituted alkyl group, M when present adjacent to a decahydronaphthalene ring represents -COO-, at least one of rings B present represents a non-substituted 1,4-phenylene group, and Z represents a non-substituted alkyl group or bromine atom, or the case in which at least one of rings B present represents a pyrimidine-2,5-diyl group, and Z represents a non-

substituted alkyl group, alkoxy group or cyano group; and

ix. case in which m and n represent 1, ring A represents a trans-decahydronaphthalene-trans-2,6-diyl group or a 1,4-cyclohexylene group, ring B represents a non-substituted 1,4-phenylene group or 1,4-cyclohexylene group, L represents a single bond, M represents -COO-, -OCO-, -CH₂O- or -OCH₂-, and R and Z represent non-substituted alkyl groups; and

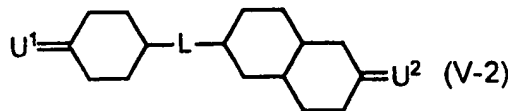
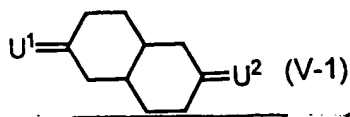
—applying similarly to compounds equivalent to the above using combinations of the abbreviations).

14. (Amended) A compound represented by general formula (II):



(wherein, R⁴ represents an alkyl group, alkoxy group, alkenyl group, alkenyloxy group or alkoxyalkyl group, L¹ represents -CH₂CH₂-, -CH(CH₃)CH₂-, CH₂CH(CH₃)-, -CH₂O-, -OCH₂-, -CF₂O-, -OCF₂-, -COO-, -OCO-, -CH=CH-, -CF=CF-, -C≡C-, -O(CH₂)₃-, -(CH₂)₃O-, -(CH₂)₄-, or a single bond, R⁴ represents an alkenyl group, alkenyloxy group or alkoxyalkyl group when L¹ represents a single bond, ring A and m are the same as defined in general formula (I); ring A represents a trans-1,4-cyclohexylene group in which one CH₂ group or more than one non-adjacent CH₂ groups in the group may be replaced by -O- or -S-, a 1,4-phenylene group in which one CH₂ group or more than one non-adjacent CH₂ groups in the group may be replaced by -N=, a 1,4-cyclohexenylene group, 1,4-bicyclo(2,2,2)octylene group, piperidine-1,4-diyl group, naphthalene-2, 6-diyl group, trans-decahydronaphthalene-trans-2,6-diyl group or 1,2,3,4-tetrahydronaphthalene-2, 6-diyl group, m represents an integer of 0-2, and the decahydronaphthalene ring has a trans form).

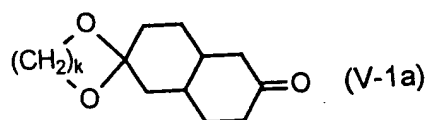
16. (Twice Amended) A compound represented by general formula (V-1) or general formula (V-2):



(wherein, U¹ and U² respectively and independently represent an oxygen atom or the following structure:

(wherein, k represents an integer from 1 to 7), L ~~is the same as previously defined in general formula (I),~~
represents -CH₂CH₂-, -CH(CH₃)CH₂-, -CH₂CH(CH₃)-, -CH₂O-, -OCH₂-, -CF₂O-, -OCF₂-, -COO-, -OCO-, -
CH=CH-, -CF=CF-, -C≡C-, -O(CH₂)₃-, -(CH₂)₃O-, -(CH₂)₄- or a single bond, and the decahydronaphthalene
ring has a trans form).

20. (Amended) A production method of general formula (V-1a):



(wherein, k is the same as previously defined in general formula (V-1) or general formula (V-2)), which is one
of the structures of general formula (V-1) according to claim 16, (wherein k represents an integer from 1 to 7)
including monoacetalation of a compound represented by general formula (V-1D):

